



Air Quality Summary—October 2012



Baton Rouge Area

OZONE

There was one (1) day that exceeded the National Ambient Air Quality Standard (NAAQS) for ozone in the Baton Rouge area during the month of October, 2012. Please see the table below for details and the graph on page two for daily air quality index levels in the Baton Rouge area during October.

An Action Day was called on October 4 for ozone for the Baton Rouge area.

PM_{2.5}

There were no violations of the NAAQS for PM_{2.5} in the Baton Rouge area during the month of October, 2012. Please see the chart and table on the next page for detailed information on PM_{2.5} levels throughout the state.

Other Areas of the State

OZONE

There were no days that exceeded the National Ambient Air Quality Standard (NAAQS) for ozone in areas of the state other than Baton Rouge during the month of October, 2012.

An Action Day was called on October 4 for ozone for the Lake Charles area.

PM_{2.5}

There were no violations of the NAAQS for PM_{2.5} during the month of October, 2012. Please see the graph and table on the next page for detailed information on PM_{2.5} levels throughout the state.

Statewide 8-HR Ozone Readings Above 75 ppb - October 2012

DATE	AQI	8-HR OZONE Concentration (ppb)	MONITORING SITE
10/20/2012	106	78	New Roads



Air Quality Summary—October 2012



Good

Moderate

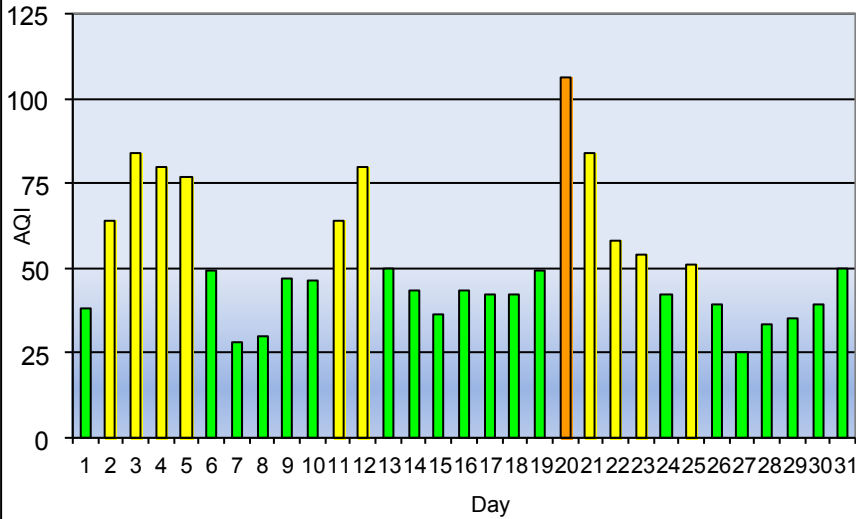
Unhealthy for Sensitive Groups

Unhealthy

Very Unhealthy

Hazardous

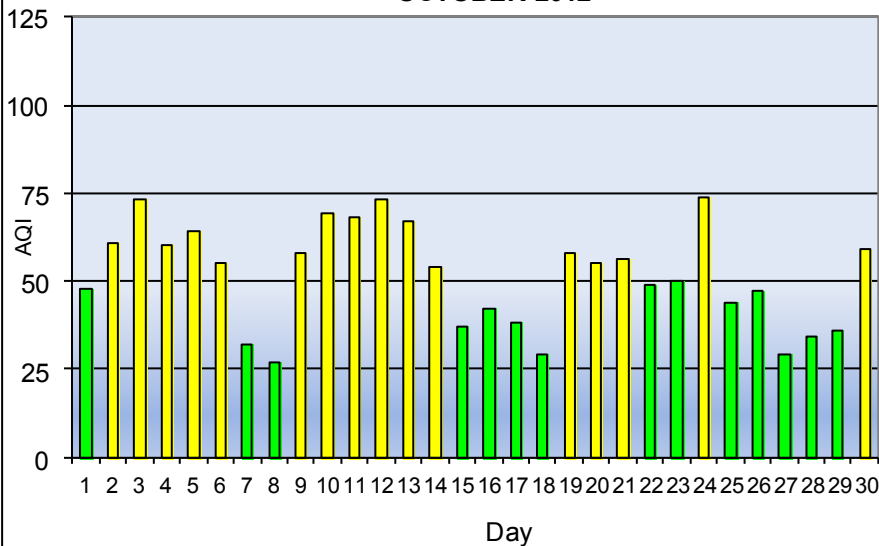
**Baton Rouge Area Daily Maximum AQI For Ozone
OCTOBER 2012**



Statewide High PM_{2.5} 24-Hour Average Readings - OCTOBER 2012

DAY	UG/m3	AQI	SITE
1	14.7	48	Westlake
2	19.6	61	Westlake
3	24.3	73	Port Allen
4	19.3	60	Westlake
5	20.9	64	Port Allen
6	17.3	55	Capitol
7	9.9	32	City Park
8	8.4	27	City Park
9	18.3	58	Port Allen
10	23	69	Port Allen
11	22.3	68	Port Allen
12	24.5	73	Port Allen
13	21.9	67	Port Allen
14	16.8	54	Capitol
15	11.3	37	Westlake
16	12.8	42	Port Allen
17	11.8	38	Port Allen, Alexandria
18	9	29	Monroe
19	18.4	58	Alexandria
20	17	55	Port Allen
21	17.5	56	Port Allen
22	15.2	49	Port Allen
23	15.3	50	Alexandria
24	24.8	74	Chalmette Vista
25	13.5	44	Monroe
26	14.6	47	Capitol
27	8.8	29	Monroe
28	10.4	34	Monroe
29	11.2	36	Westlake
30	18.6	59	Monroe
31	19.8	62	Monroe

**Statewide Daily Maximum AQI For PM_{2.5}
OCTOBER 2012**



Baton Rouge Climate Summary—October 2012

**Prepared by: Jay Grymes*

(based on available preliminary data as of January 1, 2013)

October 2012's monthly average temperature for Baton Rouge's Metro Airport (AP) was 67.0°F, more than 2° below the norm. October marks the third consecutive month with below-normal temperatures for Metro AP, a reversal of the above-normal temperature trend during the first seven months of 2012. Yet even with the "cool-than-normal" run of the past three months, 2012 remains on track to become one of the "warmest" years on record for metro Baton Rouge. Metro AP's year-to-date (Jan-Oct) temperature averaged 72.5°F, the "warmest" for that ten-month period since at least 1930.

October typically marks the on-set of what most south Louisiana residents perceive as "true" autumn. If the tropics are "behaving," October tends to be one of the most pleasant of months of the year: mild temperatures, less rain, on average, than many other months, and a noticeable dip in humidity. While they do occur on occasion, temperatures in the 90's are uncommon as are morning freezes.

We tend to see an increase in frontal activity as we transition from September to October. But many October frontal passages prove to be "mainly dry," while delivering a welcomed dip in temperatures. Baton Rouge saw four cold fronts slide through the region during October 2012, yet with a monthly rain total of less than one-half-inch, obviously none of these fronts were particularly "wet." Two of the more notable frontal passages occurred on Oct 6th and 26-27th: both marked by drops in daytime highs from the 80's down into the 60's.

October 2012 daily high temperatures for Metro AP averaged 79.3°F, more than 1° below the norm. Daily maximums were in the 80's on 20 days during the month, with 87° (Oct 5) as the month's highest reading. By contrast, there were 6 October days when highs failed to reach the 70's. October minimums averaged a cool 54.7°F, more than 3° below the normal monthly minimum. A chilly 36° was recorded on the morning of Oct 30th, the only October day with temperatures in the 30's. At the other extreme, "warm sector" air ahead of an advancing front on Oct 14th kept overnight and early morning temperatures at or above 70° that one day. Most daily minimums during the remainder of the month ranged from the mid 40's to the mid 60's.

Table 1: Average "daylight hours" sky conditions (to 12,000 ft) during October 2012, based on automated ASOS observations from Baton Rouge's Metro Airport.

Sky Condition: Sunrise to Sunset (Sky Coverage)	Clear to Mostly Sunny (0/10ths – 3/10ths)	Partly Cloudy / Partly Sunny (4/10ths – 6/10ths)	Mostly Cloudy to Cloudy (7/10ths – 10/10ths)
No. Days	21	8	2

Of the 21 "fair weather" days during October 2012, 7 were classified as "clear sky" days (through the daylight period) with another 7 days rated as having only 1/10th cloud cover through the lower two miles. The only "overcast" day was October 1st (see the impact on solar radiation in Fig. 2), with October 7th being the other "mostly cloudy" day of the month.

October daily sunrise-to-sunset periods for Baton Rouge ranged from 11.9 hours (Oct 1) to 11.0 hours (Oct 31).

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(based on available preliminary data as of January 1, 2013)

Table 2: October 2012 rainfall for selected sites across the greater Baton Rouge metro area. (Data are preliminary and provided courtesy of the National Weather Service, the LSU Southern Regional Climate Center, the LSU AgCenter, and the CoCoRaHS Volunteer Network.)

Rainfall-Recording Site	Monthly Rainfall	Monthly DFN	No. Days $\geq 0.01"$	No. Days $\geq 1.00"$
<i>NWS Cooperative Network Sites</i>				
BR – Metro Airport	0.40"	-4.30"	3	0
BR - Concord Estates	3.57"	-1.02"	5	1
BR - Sherwood Forest	1.01"	-4.00"	4	0
Clinton	0.13" <i>(i)</i>	--	3	0
Denham Springs	1.13"	-3.92"	4	0
Dutchtown	1.00"	--	6	0
Gonzales	0.34"	-4.36"	4	0
Livingston	0.66"	-4.05"	2	0
New Roads	0.51"	-4.13"	3	0
Oaknolia	0.58"	-4.28"	2	0
Plaquemine	1.31"	-3.36"	3	0
Port Allen	1.31"	-3.57"	3	0
St. Francisville	2.41"	-2.88"	4	1
St. Gabriel	0.91"	-3.70"	5	0
<i>CoCoRaHS Volunteer Observers</i>				
Baton Rouge 2.7 SW (LA-EB-2)	1.74"	--	5	0
Baton Rouge 3.5 E (LA-EB-14)	1.37"	--	4	0
Baton Rouge 2.5 E (LA-EB-27)	0.65"	--	5	0
Baton Rouge 4.3 S (LA-EB-41)	0.39" <i>(i)</i>	--	--	--
Baton Rouge 1.4 WSW (LA-EB-46)	1.90"	--	6(e)	0
Baton Rouge 5.3 S (LA-EB-47)	1.72"	--	5	0
Baton Rouge 2.1 S (LA-EB-48)	3.57"	--	5	1
Brownfields 5.8 NE (LA-EB-9)	0.64"	--	6	0
Inniswold 2.8 S (LA-EB-42)	0.57" <i>(i)</i>	--	--	--
Monticello 3.0 ENE (LA-EB-19)	0.57" <i>(i)</i>	--	--	--
Monticello 3.0 SSW (LA-EB-20)	0.67" <i>(i)</i>	--	--	--
Monticello 4.6 NNE (LA-EB-31)	1.19"	--	5	0
Shenandoah 2.1 W (LA-EB-18)	1.09"	--	5(e)	0
Shenandoah 1.5 E (LA-EB-22)	0.17" <i>(i)</i>	--	--	--
Shenandoah 0.8 W (LA-EB-36)	M	--	--	--
Zachary 3.5 WNW (LA-EB-28)	0.79"	--	4	2
Gonzales 4.0 S (LA-AS-5)	0.10"	--	2	1
Gonzales 1.8 NE (LA-AS-9)	M	--	--	--
Prairieville 1.8 NW (LA-AS-10)	0.60"	--	4	0
Port Vincent 4.4 W (LA-AS-2)	0.39"	--	4	0
Wakefield 0.9 WNW (LA-WF-4)	1.24"	--	5(e)	0
<i>Additional Metro Area Sites</i>				
LSU Campus (LA-EB-33)	2.93"	--	5	1
WAFB-TV, Downtown BR	0.85"	--	3	0
LSU AgCenter Ben Hur Farm	1.14"	--	6	0

DFN - Departure-from-Normal "--" - Normals Not Available

M - Missing Value (e) - Estimated Value (i) - Incomplete Total

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(based on available preliminary data as of January 1, 2013)

Metro AP's rainfall for October 2012 totaled a mere 0.40", more than 4" below the monthly normal. October total is the lowest October value since 2008, but more remarkably, ranks as the "9th driest" October since 1900!

Table 3: Distribution of October 2012 rain totals based on sites (Table 2) with complete monthly records for the month (30 sites).

No. Stations	No. Stations	No. Stations	No. Stations	No. Stations
≤ 1.00"	1.01" - 1.50"	1.51" - 2.00"	2.01" - 3.00"	> 3.00"
14	9	3	2	2

Based on the 30 sites included in Table 2 (with complete monthly totals), the metro area regional rainfall for October 2012 averaged just 1.24", with a median of 1.19" -- both values running about one-fourth of the October monthly norm for Baton Rouge. Also note that each of the NWS Cooperative sites with long-term normals reported below-average October rainfall, with six of those sites recording less than 1" of rain for the month.

Most metro area sites recorded measurable rainfall on 3 to 5 days during October, compared to a long-term average of 5-6 days for the month. Obviously, days with rains of 1" or more were very uncommon, reported by only 4 of the 30 sites in Table 2. (Note: The 1"-plus daily totals for these 4 sites were recorded "officially" on October 1st, yet most of that rain actually fell on the last day of September. Because of the 24-hour "morning observation" practice employed by many of the regional rainfall sites, a large proportion of a given day's rain -- sometimes all of it -- is recorded "officially" on the subsequent calendar date.)

October 2012 reports from the Baton Rouge Metro Airport ASOS (Automated Surface Observation System) weather platform included:

- only 1 day with thunder (Oct 3), below the long-term average for the month (2-3 days);
- 21 days with fog, including 8 days with "dense" fog (visibility under 1/4-mile); and
- 3 days (Oct 10, 14 & 20) with smoke and/or haze.

Daily winds at Metro Airport during October 2012 averaged a light 4.3 mph for the month, compared to a 28-year average of 5.6 mph. There were no days during the month when daily winds averaged above 10 mph, and only 11 days with daily winds averaging above 5.0 mph. Yet occasional gusts of more than 20 mph were reported on 21 days, with the month's peak gust reaching 38 mph (Oct 3rd) -- that gust coming during fair weather rather than stormy conditions as might be expected.

Tropical Review:

October was unusually busy in terms of tropical systems over the Atlantic Basin, with six named systems highlighted by "Super Storm" **Sandy**. Fortunately for Louisiana, none of these storms threatened the Bayou State -- in fact, none of the six tracked into the Caribbean or the Gulf.

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October opened with the long-lived **Nadine** still holding on to hurricane strength during the first few hours of Oct 1st before weakening to tropical-storm strength for its final days. In addition to **Nadine** and **Sandy**, **Rafael** reached hurricane intensity. **Oscar**, **Patty** and **Tony** were the three other October storms, with **Tony** “unofficially” ending the 2012 Hurricane Season on October 25th.

Table 4: October 2012 significant National Weather Service Preliminary ‘Local Storm Reports’ as posted for the greater Baton Rouge metro area.

Date	Time (CDT)	Event	Location	Parish
--	--	** No Reports **	-----	--

Acknowledgements:

- National Weather Service offices serving Louisiana
- LSU Southern Regional Climate Center (SRCC)
- Louisiana Office of State Climatology (LOSC)
- LSU AgCenter / LAIS AgWeather Monitoring Program
- CoCoRaHS Volunteer Network
- U.S. Drought Monitor (<http://drought.unl.edu/DM/>)
- NWS Climate Prediction Center (NWS/CPC)
- NWS Storm Prediction Center (NWS/SPC)
- NWS Hydrometeorological Prediction Center (NWS/HPC)
- NOAA/National Climatic Data Center (NCDC)
- WAFB-TV (Ch. 9), Baton Rouge

Prepared by:

Jay Grymes
WAFB-TV Chief Meteorologist & LSU AgCenter Climatologist
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*Jay Grymes, LSU AgCenter Climatologist and WAFB Chief Meteorologist, provides the climatology portion of this report as a free service to DEQ and the citizens of Louisiana.